

REMARKS/ARGUMENTS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1-12 are presently pending in this application. Claims 1 and 2 are amended, and Claims 7-12 are added, by the present amendment. Support for amended Claims 1 and 2 can be found in Applicants' specification at least at page 3, lines 7-16. Support for new Claims 7-12 can be found in Applicants' specification at least at pages 7 and 9 and in Figures 1(a) and 3. Thus, no new subject matter is introduced by the foregoing amendment.

In the Office Action, Claims 1-6 were rejected under 35 U.S.C. § 103(a) as unpatentable over Mizuno et al. (U.S. Patent No. 5,766,363; hereinafter "Muzuno") in view of Nishio (JP 03-244928).

Claim 1 recites a ceramic heater that includes, among other features:

...a resistance heating element formed on the second surface of said ceramic substrate or inside said ceramic substrate...  
...an operation unit configured to calculate, based on said temperature data, electric power data required for said heating element to attain a uniform temperature of the first surface,  
wherein different electric power is supplied to each of the at least two circuits based on the calculated electric power data.

Referring to the non-limiting example shown in Applicants' Figure 1(a), a ceramic heater 10 includes a heater plate 11, a surface 11a, a second surface (through which bores 14 are created), and two heating elements 12x and 12y formed in the heater plate 11. The heating elements 12x and 12y receive different levels of electric power such that the surface 11a attains a uniform temperature.<sup>1</sup> The electric power supplied to each of the heating elements 12x and 12y is determined based on electric power data, which is calculated by an operation unit 22 based on temperature data stored in a memory unit 21.<sup>2</sup> In this way, the temperature of the surface 11a can be quickly made uniform even during a sudden external temperature

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<sup>1</sup> Applicants' specification at page 7, lines 2-6.

<sup>2</sup> *Id.* from page 7, line 34, to page 8, line 5.

change (e.g., a temperature drop resulting from close proximity to a silicone wafer of a relatively low temperature).<sup>3</sup>

Mizuno and Nishio do not teach or suggest each and every feature of Claim 1.

Mizuno depicts a ceramic heater 31 that includes a carbon coating 34, which is radially divided into an inner region 34a, an intermediate region 34b, and an outer region 34c.<sup>4</sup> The carbon coating 34 is formed as a coating on an exterior surface of the ceramic heater 31,<sup>5</sup> and the regions 34a, 34b, and 34c can be individually controlled by a control system.<sup>6</sup>

However, Mizuno does not teach or suggest the feature of an operation unit configured to calculate electric power data required for said heating element to attain a uniform temperature of a *first* surface, where a resistance heating element is formed on a *second* surface of said ceramic substrate *or inside* said ceramic substrate, as recited in Claim 1. Mizuno does not teach or suggest attaining a uniform temperature of a surface of the ceramic heater. Further, Mizuno does not depict an operation unit that calculates electric power data for the carbon coating 34 to attain a uniform temperature of a surface other than the surface on which the carbon coating 34 is positioned. That is, in Mizuno, only the surface coated with the carbon coating 34 can be precisely temperature-controlled.

The Office Action turns to Nishio to remedy the deficiencies of Mizuno. However, Nishio is directed to a floor heater, and not to a ceramic heater used to heat a semiconductor wafer. Also, the cited portion of Nishio also fails to teach or suggest the feature of an operation unit configured to calculate electric power data required for said heating element to attain a uniform temperature of a *first* surface, where a resistance heating element is formed on a *second* surface of said ceramic substrate *or inside* said ceramic substrate, as recited in Claim 1. As such, Nishio fails to remedy the deficiencies of Mizuno with respect to Claim 1.

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<sup>3</sup> *Id.* at page 3, lines 1-6.

<sup>4</sup> See Mizuno at col. 7, lines 1-6; and Figures 1 and 2.

<sup>5</sup> See *id.* at col. 6, lines 38-41.

<sup>6</sup> See *id.* at col. 7, lines 8-21.

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Reply to Office Action of August 28, 2003

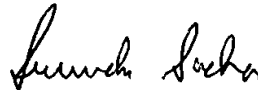
Accordingly, Applicants respectfully submit that Claim 1 is patentable over Mizuno and Nishio, and respectfully request reconsideration and withdrawal of the rejection of Claim 1 under 35 U.S.C. §103(a). Claims 3, 4, and 7-9 depend from Claim 1 and are patentable for at least the reasons discussed above.

Claim 2 recites, inter alia, features substantially similar to the above-discussed features of Claim 1. Accordingly, for at least the above-discussed reasons, Applicants respectfully request reconsideration and withdrawal of the rejection of Claim 2 under 35 U.S.C. §103(a). Claims 5, 6, and 10-12 depend from Claim 2 and are patentable for at least the reasons discussed above.

Consequently, in light of the above discussion and in view of the present amendment, the present application is believed to be in condition for allowance and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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